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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,526	07/20/2000	Bruce E. Novich	1596C3	2610

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PPG Industries Inc
One PPG Place
Pittsburgh, PA 15272

EXAMINER

GRAY, JILL M

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 07/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/620,526	NOVICH	
	Examiner	Art Unit	
	Jill M. Gray	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-22 and 24-56 is/are pending in the application.
- 4a) Of the above claim(s) 9-12,15-17 and 33-43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-8,18-22,24-32,44,46 and 51-56 is/are rejected.
- 7) ☒ Claim(s) 13,14,45 and 47-50 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/14/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The rejection of claims 1-3, 5, 13-14, 18-22, 24-32, and 44-56 under 35 U.S.C. 103(a) as being unpatentable over Kotera et al, 4,340,519 in view of Toyooka 3,506,526 is withdrawn in view of applicants' arguments.

The rejection of claims 6-8 under 35 U.S.C. 103(a) as being unpatentable over Kotera in view of Toyooka, further in view of Raghupathi et al, 6,139,958 is withdrawn in view of applicants arguments.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 44, 46, and 51-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi et al, 4,006,272 (Sakaguchi) in view of Quinn et al, 3,322,498 (Quinn) and Japanese Patent abstract JP 404238810A (Inagaki), for reasons of record.

Sakaguchi is as set forth previously and teaches glass fiber mats impregnated with a binder. The binder can be applied as a dispersion or used in the dry powder state and uniformly distributed on the glass fiber substrate. When the binder is applied in the dry powder state, a lubricant and inorganic silica particles can be added to improve flowability, per claims 44 and 51-52. See column 4, lines 3-7. The binder is selected from organic materials such as thermoplastic and thermosetting materials as required by claims 53-54 and can be polyester, per claims 55-56. See Examples.

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Sakaguchi does not specifically identify his silica particles as "lamellar particles". Quinn teaches the formation of lamellar silica that can be used as a thixotropic agent in compositions. Inagaki teaches a lamellar silica-metal oxide porous material which has crosslinking bonds between the "lamellar crystals of the silica tetrahedrons".

Applicants' arguments regarding the structure of the silica taught by Sakaguchi has been noted. In particular, applicants have argued that the silica of Sakaguchi is not lamellar and has a three-dimensional crystal lattice wherein the oxygen atoms are "strongly" bonded around the silicon atoms in a tetrahedral manner and thus is distinctly non-lamellar. In view of the teachings of Quinn and Inagaki, the examiner is unconvinced that the silica of Sakaguchi is distinctly non-lamellar. Moreover, Inagaki specifically refers to his silica (wherein the crystals of the silica are in a tetrahedral manner) as "lamellar silica".

Therefore, the prior art teachings of Sakaguchi, Quinn and Inagaki would have rendered obvious the invention as claimed in present claims 44, 46, and 51-56.

3. Claims 1-3, 5-8, 18-22, and 24-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hager et al, 5,689,601 (Hager) in view of "Concise Chemical and Technical Dictionary", 4th ed., (hereinafter the dictionary), cited to show the state of the art, further in view of Girgis 5,925,462, for reasons of record.

Hager and the dictionary are as applied previously, whereby Hager teaches an at least partially coated glass fiber strand having a coating composition on at least a portion of a surface of at least one of the fibers, the coating comprising a film forming material, a lubricious material, and discrete particles of an acrylic latex material. The

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dictionary is cited for its teachings that an acrylic latex comprises discrete particles. The film forming material is a polyolefin polymeric material, the lubricious material can be wax and the composition can be aqueous based, as set forth in claims 2-3, 22, 25-26, and 28. In addition, Hager teaches that the lubricious material can be present in amounts of approximately 5% paraffin wax emulsion, and the particle size is within applicants' range as set forth in claims 19 and 24, further teaching that the particles are present in an amount contemplated by applicants in claims 20-21. See column 3, lines 21-33 and column 4, lines 43-44. Hager does not specifically teach that the lubricious particle material comprises from 1 to 50 weight percent of the resin coating on a total solids basis.

Girgis teaches glass fiber strands for reinforcement of optical fibers, said glass fiber strands having a coating composition on at least a portion of the surface of at least one of the fibers. In addition, Girgis teaches that his coating composition comprises a plurality of discrete particles and at least one lubricious material and film former, per claim 1 and that the glass fibers are of the type contemplated by applicants in claims 6-8 such as E-glass and derivatives thereof. See columns 3-7, column 8, lines 43-50, column 9, lines 40-55, column 10, lines 1-3, and column 10, line 65 through column 11 and line 3. As to claims 31 and 32, Girgis teaches the inclusion of a resin reactive diluent that is a lubricant comprising one or functional groups of the type set forth by applicants. See column 8, lines 51-65. In addition, Girgis teaches the presence of at least one lubricious material in an amount of about 1 to about 10 weight percent of the coating on a total solids basis, which is within applicants' claimed range. Note column

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8, line 46 and column 9, line 54. It would have been obvious to modify the composition of Hager by incorporating the lubricant in his composition in an amount of 1% by weight of the coating on a total solids basis, as contemplated by applicants and taught by Girgis in order to enhance processing of the glass fibers and strand. In addition, Girgis teaches a composition that is substantially similar to that taught by Hager and contemplated by applicants. Regarding claim 24, it is the examiner's position that it is an established principle of law that a limitation merely with respect to proportions in a composition of matter or process will not support patentability unless such limitation is "critical", wherein the criticality of such limitation must be disclosed in the specification or affidavit. *In re Cole*, 140 USPQ 230 (CCPA 1964). where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In addition, there is no clear factual evidence on this record of criticality or unexpected results or properties of the coated glass strand, said criticality or unexpected results or properties being directly related to the amount of lubricious material added to the composition, particularly when said amount ranges from as low as 1% by weight of the coating on a total solids basis to amounts of 50% by weight of the coating on a total solids basis. Regarding claim 18, since the compositions of Hager and Girgis are substantially similar to that contemplated by applicants, and applied to a fiber strand, also as contemplated by applicants, the examiner has reason to believe that the plurality of particles provide an interstitial space between at least one fiber and at least one adjacent fiber.

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Therefore, the combined teachings of Hager, the dictionary and Girgis would have rendered obvious the invention as claimed in present claims 1-3, 5-8, 18-22 and 24-32.

4. Claims 1-3, 5-8, 18-22, and 24-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Girgis 5,925,462 as applied above to claims 1-3, 5-8, 18-22, and 24-32, for reasons of record.

Girgis is as applied above and teaches an at least partially coated fiber strand comprising a plurality of fibers having a coating composition on at least a portion of a surface of at least one of the fibers, wherein the coating composition comprises a plurality of discrete particles, at least one lubricious material different from said plurality of discrete particles, a film former and wherein the plurality of fibers are glass fibers of the type contemplated by applicants. Girgis does not teach the average particle size of his particles as required by claim 19. In this regard, the composition of Girgis is substantially similar to that contemplated by applicants except for Girgis' silence to his particle size. It is the examiner's position that the Federal Circuit has held that when the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. See MPEP 2144. Accordingly, changes in size normally require only ordinary skill in the art and hence are considered routine expedients. Applicants have not demonstrated on this record the criticality of the

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particle size, whereby said demonstration would render it inappropriate for the examiner to rely on this precedent to support the instant obviousness rejection over claim 19.

Therefore, the teachings of Girgis would have rendered obvious the invention as claimed in present claims 1-3, 5-8, 18-22 and 24-32.

Response to Arguments

5. Applicant's arguments filed May 5, 2006 have been fully considered but they are not persuasive.

Applicants argue that silica particles are not lamellar and reference Plummer and McGeary in support thereof, further arguing that there is nothing in Quinn that corrects the deficiencies found in Sakaguchi.

The teachings of Plummer and McGeary have been noted. It should also be noted that silica has forms other than quartz. Nonetheless, the teachings of Plummer and McGeary do not preclude the clear disclosure in Quinn of silica lamellae, and there is no clear factual evidence on this record, by way of back-to-back comparison that the silica of Quinn is not lamellar.

Applicants argue that the proposed combination of references fails to take into account the disparate teachings of the references and that Sakaguchi, Inagaki and Quinn are directed to the use of different chemical in different processes for different purposes to obtain different products.

In this regard, it is the examiner's position that silica is known in the art as an additive for many materials and prior art references Quinn and Inagaki are relied upon for all that they would have reasonably imparted to one of ordinary skill in the art at the

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time the invention was made, namely, that lamellar silica is known. As set forth above, there is no clear factual evidence on this record by way of back-to-back comparison that the silica of the prior art is not lamellar.

Applicants argue that Hager and the dictionary fail to disclose a lubricious material comprising from 1 to 50 weight percent of the resin compatible coating on a total solids basis and that Hager, the dictionary, and Girgis expressly teach away from their combination.

In this regard, it is the position of the examiner that wax is known in the art to be a lubricious material. That Hager teaches the inclusion of this component in his binder composition is of no moment and does not preclude the general knowledge in the art of wax having lubricious properties.

Applicants argue that the only mention in Girgis of discrete particles is when describing acrylic and urethane-containing polymers, which are organic compounds, whereas the present invention claims particles formed from inorganic polymeric materials and thus does not teach all the limitations of claims 1-3, 5-8, 18-22, and 24-32.

In this regard, it should be noted that applicants' claims do not exclude particles formed from organic materials.

6. Claims 46 and 47-50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

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7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill M. Gray whose telephone number is 571-272-1524. The examiner can normally be reached on M-Th and alternate Fridays 10:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jill M. Gray
Primary Examiner
Art Unit 1774

jmg